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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,229	04/18/2001	Scott A. McDermott	109273	6431

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EXAMINER

GREY, CHRISTOPHER

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,229

Applicant(s)

MCDERMOTT ET AL.

Examiner

Christopher P Grey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1, 2 and 3 objected to because of the following informalities:
Improper use of elements such as (4), (5) and (2). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taneka et al. (JP Patent publication No. 9-134208) in view of Rasmussen et al. (US Patent No. 6754846)

Regarding claim 1, the primary reference Taneka et al. (JP Patent publication No. 9-134208) shows an information processing system comprised of three processing devices (see elements 101 a-c in drawing 1) which performs predetermined information processing based on a signal from common signal output means to generate actuator control information (disclosed in Paragraph 2), and from pieces of the actuator control information (equivalent to control information), control information is decided by a majority logic circuit (equivalent

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to logical decision) to control a common control object (disclosed in Paragraph 11), each of said three or more processing devices comprising:

a communication media (equivalent to the transmission permitting part) which is adapted to contain the results of information processing and also generate an actuator control signal by three processing devices, and to decide by the majority logic circuit (see element 1002 in drawing 13) that the control information generated by which processing device is valid (see elements 102, 103 and 104 in drawing 1 and see paragraphs 39 and 40);

Disclosed in paragraph 92, Taneka et al. shows that a blocking signal (disclosed as a suppression interruption) may be applied at as many as each actuator control instruction in order to provide a higher dependability an additional controlling feature. This shows that Taneka's invention can be modified so as to output control information, and block control information as necessary.

The primary reference does not disclose in the case where control information generated by said two or more processing devices including said relevant processing device among said three or more processing devices are valid. The transmission permitting part being adapted to output a control information transmitting signal when said valid processing device has the highest priority among the processing devices with valid control information according to predetermined priorities.

Regarding claim 5, the primary Taneka et al. reference discussed above disclose all of the limitations of claim 1, but do not make mention of the redundant information processing system wherein the processing procedures of

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the logical decision make by said transmission permitting parts of said three or more processing devices are common to one another.

The primary reference discloses within the information processing system a majority logic circuit (see fig 1 element 111) that allows a logical decision to be made (disclosed in paragraph 11 and 41).

The secondary reference Rasmussen et al. (US Patent No. 6754846) shows a control system with a plurality of processors. Within the processor is an execution environment defined as SX 15'. This component functions based on a predetermined program, which is developed by a control engineer, and varies depending on the particular industrial control environment. This program directs control information depending on predetermined priority and has the option of being manipulated so as to send blocking signals dependant on the predetermined program, as disclosed in Col 11 line66- Col 12 line29.

Therefore it would have been obvious for one skilled in the art at the time of the invention to modify elements 101 a-c of Taneka et al. with the execution environment defined as the SX 15' discussed above in Rasmussen et al. in order to achieve a higher reliability with more control over output and also to eliminate any single fault point.

Allowable Subject Matter

Claims 2, 3, 4, 6, 7, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

A redundant information processing system containing three or more devices comprising:

A logical computing part which is adapted to output the control information generated by the processing device, unless the number of inputs of control information blocking signal is more than the predetermined number even if the transmission permitting part of the processing device outputs the control information transmitting signal.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on **(571)272-3179**. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7723.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art Unit 2667
CPG 9/13/04

A. Qureshi 9/13/04
AFSAR QURESHI
PATENT EXAMINER